

EBOLA

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The Reader Will Be Able To...



- List three ways Ebola can be transmitted.
- Recall three health effects of Ebola.
- Discuss three symptoms of Ebola.
- Locate three locations where Ebola is found.
- Identify three risk factors of Ebola.
- Explain the treatment for Ebola.



United Nations...



The U.N. health agency described the global Ebola situation as the worst outbreak in the four-decade history of tracking the disease.

CNN News



International Public Health Emergency...



The World Health Organization declared an international public health emergency on Friday, August 8, 2014.

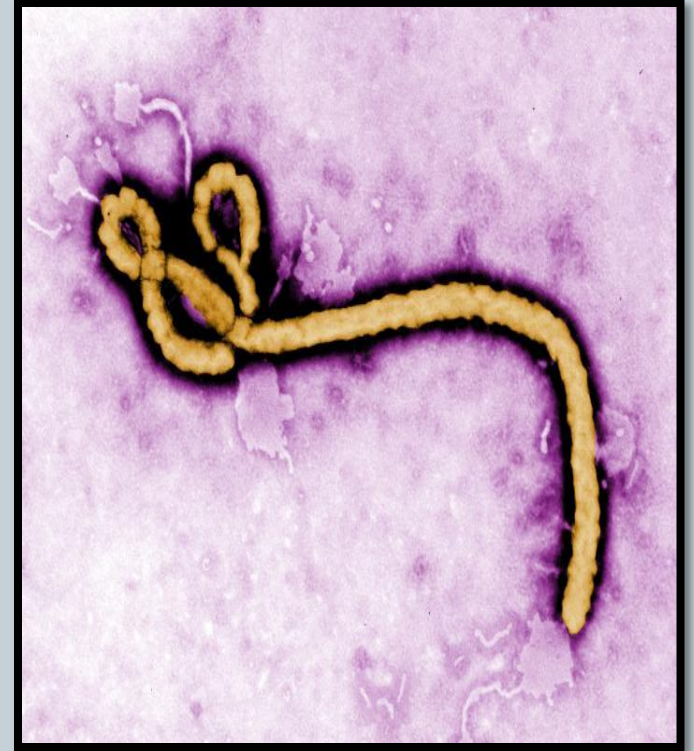
World Health Organization



What Is Ebola?



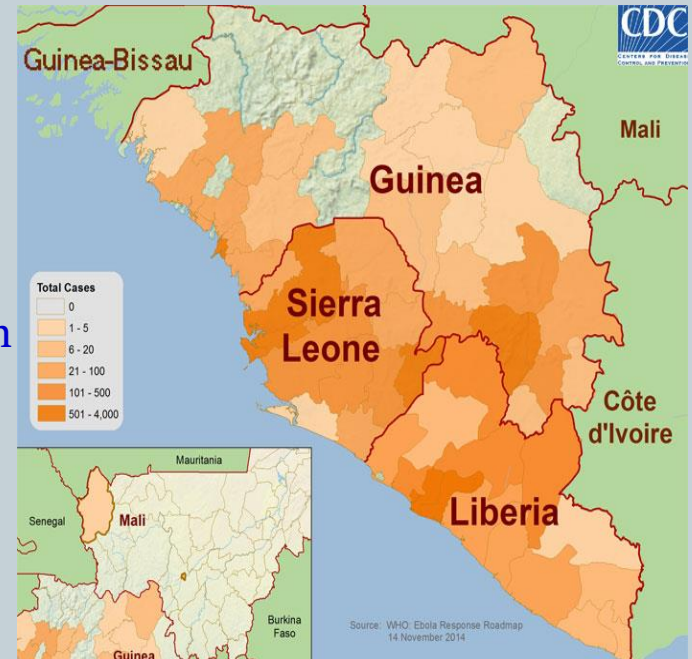
- Ebola hemorrhagic fever (Ebola HF) is caused by a virus and is one of the world's most virulent diseases. (WHO)
- When a person becomes infected with Ebola their symptoms occur quickly.
- The first *Ebolavirus* species was discovered in 1976 in what is now the Democratic Republic of the Congo, near the Ebola River.
- Researchers believe that the virus is zoonotic (animal-borne) with bats being the most likely reservoir.



Source: CDC

Where In The World is Ebola...

- Cases have been reported in:
 - Guinea- Entire country
 - Liberia- Entire country
 - Sierra Leone- Entire country
 - Mali- Initial cases or localized transmission
 - United States - Initial cases or localized transmission
- Returning visitors from the affected areas should be alert to developing infectious disease symptoms.



Source: CDC

Post Ebola Outbreaks...



- Post Ebola outbreaks have occurred in the following countries:
 - Democratic Republic of the Congo (DOC)
 - Gabon
 - South Sudan
 - Ivory Coast
 - Uganda
 - Republic of the Congo (ROC)
 - South America (Imported)
 - Nigeria



Travel Alert...



- CDC recommends that people avoid nonessential travel to Guinea, Liberia, and Sierra Leone.
- To learn more about travel information to the above locations, click on the picture.



Travel To And From Ebola-Affected Countries...

TRAVEL TO AND FROM EBOLA-AFFECTED COUNTRIES IS LOW-RISK HERE IS WHAT YOU NEED TO KNOW



WHILE TRAVELLING

If you develop a fever and Ebola symptoms yourself promptly inform airline personnel.



fever, weakness, muscle pain, headache, and sore throat; followed by vomiting, diarrhoea, bleeding.

Alert airline personnel about a fellow traveller who has Ebola symptoms:



AT AIRPORTS AND AT YOUR DESTINATION

DO NOT touch the body of a person who has died from Ebola.



Use alcohol rub throughout the day. When hands are visibly dirty use soap and water.



Seek prompt medical attention if you have Ebola symptoms.



Avoid direct physical contact with anyone who is displaying the symptoms of Ebola.

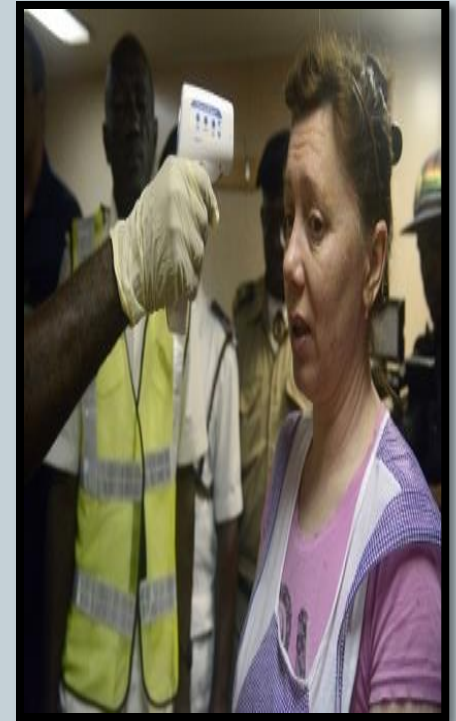


World Health Organization

Travel Monitoring...



- People who travel from Guine, Liberia, Sierra Leone and Mali will be monitored for 21 days for any symptoms of Ebola.
- Travelers who travel to the above countries will be routed to one of the five United States air ports of entry.
- The travelers **MUST** stay at home for 21 days.
- A member of the health department, will conduct a home visit every day to check for symptoms.
- The traveler **MUST** take his or her temperature twice daily.



What Does Ebola Do To The Body?

- It damages the immune system and organs.
- Ultimately, it causes levels of blood-clotting cells to drop.
- This leads to severe, uncontrollable bleeding.
- Death



Ebola And Animals...



- Four of the five subtypes of the virus occur in an animal host native to Africa.
- Animals that are affected by Ebola include:
 - Monkeys
 - Gorillas
 - Chimpanzees
 - Bats
- There is no evidence that mosquitoes or other insects can transmit Ebola virus.



How Is Ebola Transmitted?



Ebolavirus Ecology

Enzootic Cycle

New evidence strongly implicates bats as the reservoir hosts for ebolaviruses, though the means of local enzootic maintenance and transmission of the virus within bat populations remain unknown.

Ebolaviruses:

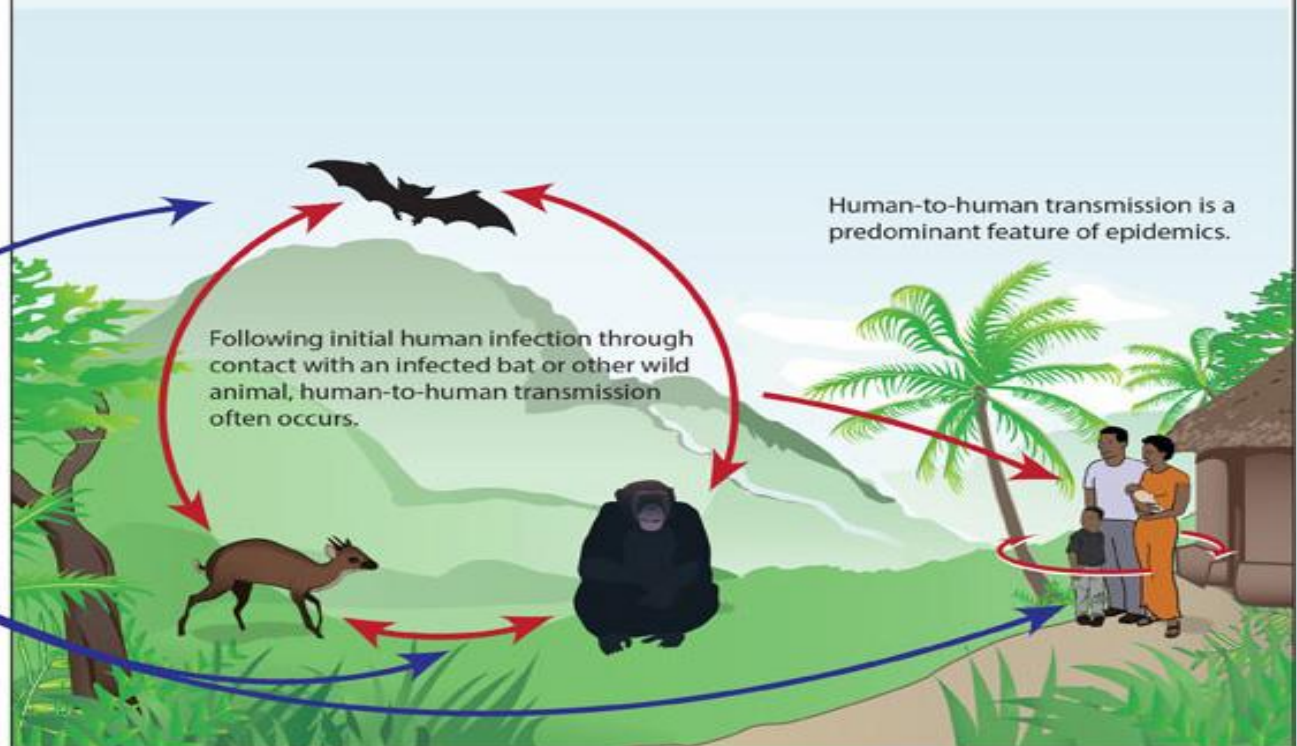
- Ebola virus (formerly Zaire virus)
- Sudan virus
- Tai Forest virus
- Bundibugyo virus
- Reston virus (non-human)



Epizootic Cycle

Epizootics caused by ebolaviruses appear sporadically, producing high mortality among non-human primates and duikers and may precede human outbreaks. Epidemics caused by ebolaviruses produce acute disease among

humans, with the exception of Reston virus which does not produce detectable disease in humans. Little is known about how the virus first passes to humans, triggering waves of human-to-human transmission, and an epidemic.



Bushmeat...

- In Africa, Ebola may be spread as a result of handling bushmeat (wild animals hunted for food) and contact with infected bats.
- In some stores people do sell bushmeat, which is illegal to do in the United States.
- Do not buy or eat any of this meat.



How Is Ebola Transmitted?

- Direct contact with the blood or secretions of an infected person. (e.g., blood, stool, urine, sweat, semen, breast milk)
- Exposure to objects (such as needles) that have been contaminated with infected secretions.
- Ebola can not be transmitted in the air or by food.
- Ebola is often spread through families and friends due to close contact with infectious secretions when caring for ill friends and family members.



Ebola is not spread through the air or by water, or by food in the United States.

How Is Ebola Transmitted?

- **People who are infected with Ebola and have no symptoms are not contagious.**
- In order for the virus to be transmitted, an individual would have to have direct contact with an individual who is experiencing symptoms.
- A person would have to touch an object that was in contact with an infected person to also become infected with Ebola.



How Is Ebola Transmitted In Health Care ?



- During outbreaks of Ebola, the disease can spread quickly within healthcare settings (such as a clinic or hospital).
- Exposure to Ebola can occur in healthcare settings where hospital staff are not wearing appropriate personal protective equipment.
- Dedicated medical equipment (preferably disposable, when possible) should be used by healthcare personnel providing patient care.
- Proper cleaning and disposal of instruments, such as needles and syringes, also are important.



How Long Does Ebola Live Outside The Body?

- Ebola on dried surfaces such as doorknobs and countertops can survive for several hours.
- However, virus in body fluids (such as blood) can survive up to several days at room temperature.
- Ebola is killed with hospital grade disinfectants and household bleach.
- Use a U.S. Environmental Protection Agency (EPA)-registered hospital disinfectant with a label claim for a non-enveloped virus (e.g., norovirus, rotavirus, adenovirus, poliovirus).



What Are The Symptoms Of Ebola?

- Below are the most common symptoms:
 - Fever
 - Headache
 - Joint and muscle aches
 - Weakness
 - Diarrhea
 - Vomiting
 - Stomach pain
 - Lack of appetite
 - Unexplained bleeding or bruising
- Below are other symptoms which can occur:
 - A Rash
 - Red Eyes
 - Hiccups
 - Cough
 - Sore throat
 - Chest pain
 - Difficulty breathing
 - Difficulty swallowing
 - Bleeding inside and outside of the body



What Are The Symptoms Of Ebola?



- Symptoms may appear anywhere from 2 to 21 days after exposure to Ebola though 8-10 days is most common.
- Some who become sick with Ebola are able to recover, while others do not.
- The reasons behind this are not yet fully understood.



Who Is At Risk For Developing Ebola?

- Healthcare workers
- Family and friends who take care of infected friends and family members.
- People who have traveled to high risk countries.
- Anyone who comes in contact with a person's body fluids that are infected with the virus.
- Handling dead bodies of people who have died of Ebola.



Dr. Kent Brantly

Can Pets Become Infected Or Sick With Ebola?

- At this time, there have been no reports of dogs or cats becoming sick with Ebola or of being able to spread Ebola to people or other animals.
- It is unknown whether or not a pet's body, paws, or fur can pick up and spread Ebola to people or other animals.
- It is important to keep people and animals away from blood or body fluids of a person with symptoms of Ebola infection.



How Is Ebola Diagnosed?

- People who are newly infected with the virus may be difficult to diagnose in the early stages of the disease, due to the symptoms not being specific to Ebola.
- If the person does have symptoms that could be Ebola and have risk factors, a blood test may be taken.
- If a person does have symptoms of Ebola, they should be isolated and public health professionals notified.



How Is Ebola Diagnosed?



- Ebola is detected in blood only after onset of symptoms, most notably fever.
- It may take up to three days after onset of symptoms for the virus to reach detectable levels.
- The virus is generally detectable between 3 to 10 days after onset of symptoms.



What Is Contact Tracing?

What is contact tracing? Contact tracing can stop the Ebola outbreak in its tracks



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

Contact tracing is finding everyone who comes in direct contact with a sick Ebola patient. Contacts are watched for signs of illness for 21 days from the last day they came in contact with the Ebola patient. If the contact develops a fever or other Ebola symptoms, they are immediately isolated, tested, provided care, and the cycle starts again—all of the new patient's contacts are found and watched for 21 days. **Even one missed contact can keep the outbreak going.**



Source: CDC

What To Do If You Are Exposed To Ebola ..

- If you have traveled to an area with an Ebola outbreak or had close contact with a person sick with Ebola, you may be at risk if you :
 - Had direct contact with blood or body fluids or items that came into contact with blood or body fluids from a person with Ebola.
 - Touched bats or nonhuman primates (like apes or monkeys) or blood, fluids, or raw meat prepared from these animals
 - Went into hospitals where Ebola patients were being treated and had close contact with the patients.
 - Touched the body of a person who died of Ebola.



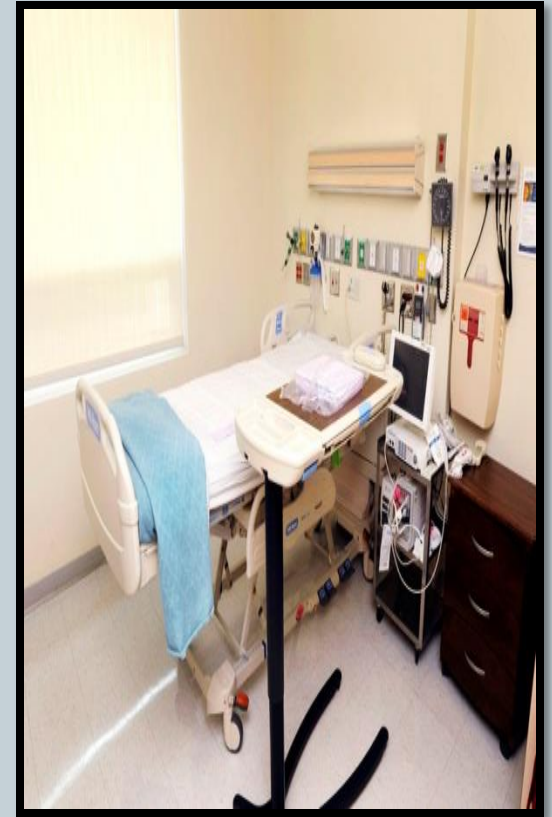
You Should Check For Signs And Symptoms Of Ebola For 21 days..

- Take your temperature every morning and evening.
- Watch for other Ebola symptoms, like severe headache, muscle pain, vomiting, diarrhea, stomach pain, or unexplained bleeding or bruising.
- Call your doctor even if you do not have symptoms.
- The doctor can evaluate your exposure level and any symptoms and consult with public health authorities to determine if actions are needed.
- During the time that you are watching for signs and symptoms, you can continue your normal activities, including going to work.



If You Get Sick After You Come Back From An Area With An Ebola Outbreak...

- Get medical care **RIGHT AWAY** if you have a fever, severe headache, muscle pain, vomiting, diarrhea, stomach pain, or unexplained bleeding or bruising.
- Tell your doctor about your recent travel to West Africa or contact with a person who was sick with Ebola and your symptoms **BEFORE** you go to the doctor's office or emergency room.
- Calling before you go to the doctor's office or emergency room will help the staff care for you and protect other



What Is The Treatment?



- Treatment for Ebola is limited to only supportive care.
- This would include:
 - Balancing the patient's fluids and electrolytes
 - Maintaining their oxygen status and blood pressure
 - Treating them for any complicating infections
- Many times the symptoms may not be specific for Ebola, so people can be misdiagnosed.
- No specific vaccine or medicine (e.g., antiviral drug) has been proven to be effective against Ebola.



Recovering From Ebola...



- People who recover from Ebola infection develop antibodies that last for at least 10 years, possibly longer.
- It is not known if people who recover are immune for life or if they can become infected with a different species of Ebola.
- Some people who have recovered from Ebola have developed long-term complications, such as joint and vision problems.
- Ebola can stay in semen after recovery, men should abstain from sex (including oral sex) for three months.



Future Treatments

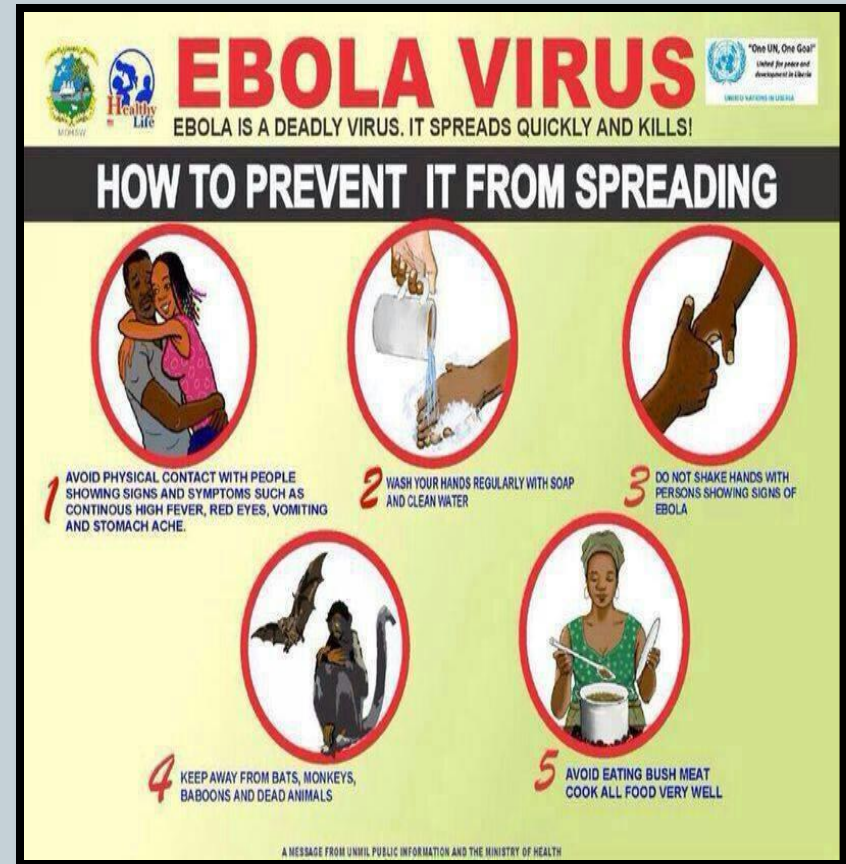


- Auburn University is working on a new molecule called WY3161.
 - The molecule is said to turn back on the immune system after Ebola has turned “off” the immune system.
- One potential treatment already making headlines is ZMapp, an experimental drug made by Mapp Biopharmaceutical Inc. of San Diego, California.
 - The serum is made using three different purified antibodies.
 - Two American missionaries infected with Ebola, Dr. Kent Brantly and nurse Nancy Writebol, received doses of ZMapp before leaving Africa for treatment in the U.S. They are in an isolation unit at Emory University Hospital in Atlanta.



How To Prevent Ebola...

- Do not touch another person's body fluids if they are infected with Ebola.
- Do not have sexual intercourse with a sick person or a person recovering from Ebola for at least 7 weeks.
- If healthcare providers are caring for people with Ebola or family and friends have contact with the infected person, they should wear protective equipment (e.g. masks, gowns, and gloves).
- Good personal hygiene such as washing hands.



Remember...

Facts *about* **Ebola** in the U.S.

You **CAN'T** get Ebola
through **AIR**



You **CAN'T** get Ebola
through **WATER**



You **CAN'T** get Ebola
through **FOOD** grown or
legally purchased in the U.S.



You can only get Ebola from

- Touching the blood or body fluids of a person who is sick with or has died from Ebola.
- Touching contaminated objects, like needles.
- Touching infected fruit bats or primates (apes and monkeys).



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Health Care Providers...



- For more information, please click on the links below:
 - [Infection Prevention and Control Recommendations for Hospitalized Patients with Known or Suspected Ebola Virus Disease in U.S. Hospitals](#)
 - [Interim Guidance for Environmental Infection Control in Hospitals for Ebola Virus](#)
 - [Guidance for Safe Handling of Human Remains of Ebola Patients in U. S. Hospitals and Mortuaries](#)
 - [Ebola Medical Waste Management](#)
 - [Emergency Medical Services \(EMS\)](#)

Health Care Providers...



- For more information, please click on the links below:
 - [Guidance on Air Medical Transport for Patients with Ebola Virus Disease](#)
 - [Personal Protective](#)

Sources...



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- Centers For Disease Control
- Fox News
- Indiana State Department Of Health
- Los Angeles Times
- Mayo Clinic
- National Institute Of Health
- The Washington Post
- Web MD
- World Health Organization

